

Appl. No. 10/669,671

Amendments to the Claims

1. (Previously presented) A method of depositing a layer over a substrate, comprising:

providing a substrate within a high density plasma reaction chamber;

providing heavy-diatomic hydrogen gas within the reaction chamber;

providing at least one compound having a heavy-hydrogen isotope substituent into the reaction chamber;

generating a high density plasma within the reaction chamber; and

chemical vapor depositing a layer over the substrate, the layer incorporating at least a portion of the at least one compound.

2. (Original) The method of claim 1 wherein the heavy-hydrogen isotope is deuterium.

3. (Previously presented) The method of claim 1 wherein the at least one compound is selected from the group consisting of $\text{SiD}_x\text{H}_{4-x}$, $\text{Si}_2\text{D}_y\text{H}_{6-y}$, $\text{PD}_2\text{H}_{3-z}$, SiCl_2DH , and SiCl_2D_2 , $\text{SiO}_4\text{C}_8\text{D}_q\text{H}_{20-q}$, where $x=1-4$, $y=1-6$, $z=1-3$ and $q=1-20$.

4. (Original) The method of claim 1 wherein the layer comprises an oxide material.

5. (Original) The method of claim 1 wherein the layer is simultaneously deposited and etched during the depositing.

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6. (Original) The method of claim 1 wherein the depositing produces a substantially planar surface.

7. (Original) The method of claim 1 wherein the at least one compound is comprised by a mixture, the mixture further comprising at least one of O₂ and O₃.

Claims 8-44 (Cancelled).